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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Kazuaki WATANABE, et al
Serial No.: 10/001,256 Group No.: 1755
Filed: November 2, 2001 Examiner.: Callie E. Shosho
For: INK COMPOSITION FOR INK JET PRINTER

Attorney Docket No.: U 013698-2

Commissioner for Patents
P.O. Box 1450
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APPELLANT'S REPLY BRIEF

This brief is in reply to the Examiner's Answer mailed 23 November 2004.

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I. Reply to Examiner's Answer re *Prima Facie* Case

Appellants have argued that there would have been no motivation to use the penetrating agents described in Sano et al with the inks described in JP 11217525 or Anton et al because Sano et al make clear that the penetrating agents are designed specifically for use with the ink compositions described in Sano et al, wherein the other described components, including the alginate, mitigate the effects of the penetrating agents. The Examiner answers by contending that (a) Appellant's claims do not exclude an alginate (Examiner's Answer at page 7, paragraphs 2 and 3; page 8, second full paragraph and page 9, first full paragraph), (b) Sano et al provide a motivation to use the described penetrating agents in inks generally so as to balance the enhancement of coloring properties and prevention of color bleed (Examiner's Answer at paragraph bridging pages 8 and 9), and (c) the comparative examples in Sano et al show that inks comprising the penetrating agents without the alginate have an optical density that is, in some cases, almost as good as inks comprising the penetrating agent and the alginate (Examiner's Answer at page 8, second full paragraph). Appellants reply with respect to each of these contentions as follows.

A. Whether or not Appellants' claims are open to the inclusion of an alginate is **irrelevant** to the issue raised by Appellants. The issue is whether one of skill in the art would have had a motivation to combine the penetrating agents of Sano et al with inks, such as those described in the primary reference, which do not include an alginate. Whether or not there is a motivation for this combination has nothing to do with what may or may not be **excluded** from the claims; it depends entirely on whether or not there is a teaching in the prior art to make the combination that is **included** in the claims. See,

e.g., MPEP Section 2143: "The teaching or suggestion to make the **claimed combination** and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure."

B. To set forth a *prima facie* case of obviousness, the prior art must suggest the **desirability** of the claimed combination. See MPEP Section 2143.01: "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." (Emphasis in original.)

The Examiner has contended that it would have been desirable to include the penetrating agents of the secondary reference into the ink compositions of the primary reference to reduce color bleeding. The Examiner does not dispute, and in fact acknowledges, the teaching in Sano et al that, to enhance the coloring properties of a recorded image, it may be desirable **to reduce** the penetration of an ink not comprising an alginate, and that there must be a balancing between the enhancement of coloring properties and prevention of color bleed. However, the prior art, as represented by JP 11217525, suggests that the inclusion in an ink composition of an emulsion of a polymer containing a sulfonyl group already solves the problem of ink spread, i.e., bleed (see JP 11217525 at, for example, paragraph [0003] "The problem which this invention solves"). There would have been no motivation to include the penetrating agent from Sano et al in an ink composition comprising such polymer emulsion to solve a problem that had already been solved. To the contrary, to maintain the balance between enhancement of color properties and prevention of color bleed taught by Sano et al, one of skill in the art would have been motivated **not** to increase the penetration of inks containing the polymer

emulsion so as not to sacrifice coloring properties. In other words, the cited art teaches away from the claimed penetrating agents in inks comprising the claimed resin emulsion.

C. Sano et al do not teach or suggest the desirability of the compositions in their comparative examples; to the contrary, they teach that these compositions are less than optimal.

II. Reply to Examiner's Answer re Rebuttal Evidence

Appellants' have argued that the evidence in the declaration filed November 12, 2003 establishes the criticality of the use in the claimed ink composition of the claimed emulsion with sulfonyl group-containg polymer in combination with the claimed ultrapenetrating agent to improve gloss and gloss differential of the ink composition and rebuts any alleged *prima facie* case of obviousness set forth by the cited references. The Examiner answers by contending that (a) Sano et al already recognize the criticality of using the claimed ultrapenetrating agent to produce ink with the "necessary" penetrating capacity (Examiner's Answer at page 10, first paragraph); (b) each of the primary references already discloses the use of sulfonyl group-containing polymer (Examiner's Answer at page 10, third paragraph); and (c) the improved properties would flow naturally from the suggestion of the prior art (Examiner's Answer at paragraph bridging pages 10 and 11). Appellants reply with respect to each of these contentions as follows.

A. To say that Sano et al already recognize the criticality of using the claimed ultrapenetrating agent (a combination of the compound of formula (I) and triethylene glycol monobutyl ether) to produce ink with the "necessary" penetrating capacity

respectfully begs the question: what is the "necessary" penetrating capacity. As discussed above, Sano et al teach that ink penetration must be balanced with other factors that depend upon components in the ink other than the penetrating agent (e.g., alginate). Accordingly, assuming *arguendo* that Sano et al could be said to recognize any criticality with respect to the penetrating agent, it would be a criticality with respect to its use in the specific ink described in the reference, and not with respect to different inks with different components and different bleeding, penetrating, fixation, etc. properties. The reference *a fortiori* does not teach the criticality of using the claimed ultrapenetrating agent in an ink composition comprising the claimed emulsion with a sulfonyl group-containing polymer.

B. While the primary references may disclose the use of an emulsion comprising a sulfonyl group-containing polymer, they do not disclose the criticality of using the same in an ink composition comprising the claimed ultrapenetrating agent. The compound in the references that is closest to the claimed ultrapenetrating agent is diethylene glycol monobutyl ether (see JP 11217525 at paragraph [0030]), and the declaration of 12 November 2003 shows that the claimed composition comprising the claimed penetrating agent is superior to an identical composition comprising the closest prior art compound instead of the claimed penetrating agent. Accordingly, the declaration shows the criticality of using the claimed penetrating agent **in combination with** the claimed emulsion in the claimed composition. This could not have been expected from Sano et al for reasons discussed above.

C. The Examiner contends that "although Sano et al disclose using acetylene glycol and triethylene glycol monobutyl ether to produce ink with necessary penetrating capacity, given that Sano et al disclose the use of acetylene glycol and triethylene glycol

monobutyl ether identical to that presently claimed, it is clear that such combination would intrinsically improve gloss differential and glossiness." Examiner's Answer at page 11, lines 1-5. This contention is respectfully belied by the 12 November 2003 declaration which compares the claimed ink (Ink Set A) with Ink Set F, which contains the claimed combination of penetrating agents but does not contain the claimed emulsion of sulfonyl group-containing polymer. As shown in the declaration, Ink Set F (containing the claimed combination of penetrating agents) achieved a score of C in the evaluation for "gloss differential" and "glossiness" whereas the claimed ink (Ink Set A) achieved a score of A in these evaluations. Clearly, the improvement in gloss differential and glossiness is a function of the combination of the ultrapenetrating agents with the claimed resin emulsion and **not** a function of the combination of penetrating agents alone.

For the above reasons, it is again respectfully submitted that the rejections of record should be withdrawn.

Respectfully submitted,

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